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Employability, Digital Skills, and Economic Growth in the Moroccan Context: A Qualitative Approach

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Employability; Qualitative approach; Morocco; Economic growth; Digital skills; Interviews; Human capital

Abstract

This article examines the impact of integrating digital skills into the Moroccan education system on economic growth and graduate employability. Using a qualitative research design, data were collected through semi-structured interviews involving workers, government officials, students, teacher-researchers, and educational administrators. The findings reveal that digital skills play a critical role in enhancing creativity, innovation, and productivity, which in turn contribute to national economic expansion. Furthermore, the integration of digital competencies into education is shown to improve teaching quality and facilitate graduates' professional integration, particularly within digitally driven industries. Despite these positive outcomes, the study also identifies significant challenges in the implementation process, including limitations in educational infrastructure, insufficient teacher training, and unequal access to digital resources. Therefore, the study underscores the importance of strategic policies, targeted investments, and comprehensive capacity-building initiatives to ensure the effective and equitable integration of digital skills into Morocco's education system, ultimately strengthening human capital development and long-term economic sustainability.

Kata kunci:
Daya kerja; Pendekatan kualitatif; Maroko; Pertumbuhan ekonomi; Keterampilan digital; Wawancara; Modal manusia

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Abstrak

Artikel ini mengkaji dampak integrasi keterampilan digital dalam sistem pendidikan Maroko terhadap pertumbuhan ekonomi dan daya kerja lulusan. Penelitian ini menggunakan pendekatan kualitatif dengan pengumpulan data melalui wawancara semi-terstruktur yang melibatkan pekerja, pegawai pemerintah, mahasiswa, dosen-peneliti, serta administrator pendidikan. Hasil penelitian menunjukkan bahwa keterampilan digital berperan penting dalam meningkatkan kreativitas, inovasi, dan produktivitas, yang pada akhirnya berkontribusi pada pertumbuhan ekonomi nasional. Selain itu, integrasi kompetensi digital dalam pendidikan terbukti mampu meningkatkan kualitas pembelajaran serta mempermudah integrasi profesional lulusan, khususnya dalam sektor industri berbasis digital. Meskipun demikian, penelitian ini juga mengidentifikasi berbagai tantangan dalam proses implementasi, seperti keterbatasan infrastruktur, kurangnya kesiapan dan pelatihan guru, serta ketimpangan akses terhadap sumber daya digital. Oleh karena itu, penelitian ini menekankan pentingnya kebijakan strategis, investasi yang terarah, dan penguatan kapasitas secara berkelanjutan guna memastikan integrasi keterampilan digital yang efektif dan berkeadilan dalam sistem pendidikan Maroko, sehingga mampu memperkuat pengembangan modal manusia dan keberlanjutan ekonomi jangka panjang.

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INTRODUCTION

The majority of theoretical and empirical research supports the idea that human capital is essential to long-term economic growth and that its qualitative component has significant effects on the nation's economy. In the current context of widespread use of NICTs, this feature is represented by knowledge and skills, particularly digital abilities. In fact, the way people live, learn, and work has changed significantly because of the development of digital technology. Incorporating digital skills into school has become a top focus in Morocco and around the world in recent years as a way to improve young people's employability, particularly for those who have a hard time obtaining and keeping good jobs. Morocco's deficiencies in digital skills and digitization have been brought to light by the Covid-19 epidemic. Additionally, qualitative research, such as policy decision-makers' interviews, may provide insight into the mechanisms underlying the associations that have been noted (Fikri et al, 2025).

In order to sustain social and economic activity and guarantee the survival of critical sectors throughout the pandemic, digital infrastructure and services are essential. However, the epidemic has also brought to light inequalities and the digital divide, especially among the most disadvantaged populations and in rural areas. The pandemic highlighted the importance of digital transformation in several economic fields such as banking, industry, health, and education. The combined empirical data shows that Morocco's dynamic relationship between economic growth and education is clearly asymmetrical. As evidenced by its increasing contribution to the variation of GDP per capita, education has a growing impact on economic growth over time, while the opposite effect of economic growth on education is mild and essentially unchanged (Fikri et al, 2025c).

Our research attempts to provide an answer to the following question: How much does the incorporation of digital skills into Moroccan education impact young graduates' employability, especially in industries where digital abilities are highly sought after and contribute to the nation's economic development? In addition to identifying the elements that support the development of these abilities, our research seeks to shed light on the triangle interaction between employability, economic growth, and digital skills.

We will use a qualitative technique to address this topic by setting up semi-structured interviews with a sample of employers, educators, and recent graduates. We can comprehend the significance of incorporating digital skills into the educational system to educate future generations for the quickly evolving digital world and to encourage the adoption of digital technology in many economic sectors thanks to the thematic analysis of the gathered content.

1. Digital Skills in Morocco and Government

The Moroccan government has started several programs to increase the digital literacy of its residents, civil servants, students, teachers, and educators as part of its commitment to bolstering the digital economy and skills. Among these initiatives are :

1- Morocco's digital transformation center was established with the goal of lowering social inequality, increasing economic competitiveness, and improving public service quality. Its main goals are to develop Moroccan residents' essential digital skills, support local innovation ecosystems, and encourage start-ups and digital entrepreneurship.

2- "Maroc Numeric 2013" aims to increase Morocco's competitive advantages and establish it as a vibrant growing nation in the field of information technologies. In order to establish the groundwork for digital development and set the stage for later initiatives like "Maroc Numeric 2020" and "Maroc Numeric 2025," which seek to create a robust development dynamic through the introduction of e-governance services, efforts have been concentrated on modernizing infrastructure and putting in place policies and regulatory frameworks (OECD, 2018).

3- Morocco can fully utilize the benefits of ICT for accomplishing the Sustainable Development Goals (SDGs) by implementing a whole-of-government digitalization strategy (OECD, 2018). In order to carry out the "Digital Morocco 2025" national strategy, the government established the Digital Development Agency (ADD) in 2019 with the goal of managing cross-functional digital initiatives and advancing digital in the Moroccan economy (UNDP-UNCDF, 2022). By using a participatory approach with all stakeholders, the agency has chosen five key areas to work on: promoting research and development, stimulating social and entrepreneurial innovation, and guaranteeing responsible and sustainable digital inclusion.

4- the adoption of laws and policies with a particular focus on supporting the digital economy (UNDP-UNCDF, 2022). Despite these efforts, Morocco still struggles with a dearth of digital skills at all levels, with only 48% of the population having basic to expert digital skills. Morocco is working with Oracle to promote the nation's goal of becoming a major manufacturer of digital solutions by fostering the development of digital skills in higher education (Morocco World News, 2023).

5- Morocco wants to grow In order to take advantage of the digital interconnection of its citizens, efforts are being made to build digital skills among public officials and managers, assess their skill gaps, and think

about developing specialized digital policies (OECD, 2018). Lafarge-Holcim In addition to giving pupils access to electronic educational resources, Morocco's "Connected Classrooms" initiative aims to prevent school dropout and support local education (Resilient Digital Africa, 2024).

6- Morocco is introducing 144 new digital training courses as part of a partnership with 12 universities to train 22,500 digital experts by 2027. To improve the nation's standing and satisfy the demands of the digital industry, these are arranged as creative training sessions (Resilient Digital Africa, 2024). By creating cutting-edge digital tools and updating infrastructure, the Ministry of National Education, Preschool, and Sport has established the Digital Lab, a digital laboratory that aims to enhance learning quality and educational establishment performance (Resilient Digital Africa, 2024).
7- The goal of Morocco's National Plan for Accelerating the Transformation of the ESRI environment (PACTE ESRI 2030) is to expedite the transformation of the country's higher education, scientific research, and innovation environment. It aspires to position Morocco among the leading countries in innovation and academic and scientific added value, aligning with the priorities of the New Development Model. This plan for innovation, the development of digital competencies, and insertion of graduates into economic life is considered till 2022.
8- As part of the #AfricaInMotion initiative, Ericsson has signed memorandums of understanding with key Moroccan universities to further strengthen their collaborations in areas such as information technology skill development. The program is supposed to offer learning and professional development opportunities to young Moroccan talents. It does this by providing students with access to a digital skill site called Ericsson Educate, along with training and mentorship from industry experts.

In conclusion, all of Morocco's programs are designed to promote the growth and reinforcement of digital skills for a brighter future. They support the development of a more interconnected and competitive society as well as sustainable economic growth (Resilient Digital Africa, 2024).

2. Employability, Digital Skills, and Economic Growth: Literature Review

Numerous studies have demonstrated that the incorporation of digital skills into Moroccan education has a major impact on young graduates' employability, especially in industries where digital skills are highly sought after, and it also boosts the nation's economy.

In Morocco, graduates' employability is greatly impacted by their digital skills. To be viable and competitive, Moroccan businesses nowadays must

draw in profiles with digital capabilities. Therefore, graduates in Morocco may have a better probability of professional integration and career advancement if they acquire digital skills (Jalbout and Farah, 2016). Recruiters also consider these abilities when making their selections. They can be harmful to their professional careers and pose a threat to young students. Graduates may become socially and professionally marginalized if they are unable to acquire these abilities. The greatest approach to fully utilize these advancements and turn them into a lever for "quality work, value creation, and personal fulfillment" seems to be to develop these skills. Mak and Benali (2022). Digital abilities give businesses a competitive advantage. They are essential to staying competitive in the rapidly evolving digital economy. They result in the management of resources in educational institutions, which directly affects graduates' employability (Benali and Mak, 2022). In order to improve students' performance and, consequently, their integration into the workforce, teachers and educators must integrate and master digital skills (Mazouak and Lamniai, 2021). In addition, Since education affects economic growth, it is essential to sustainable development (Fikri, 2025)

The development of digital skills tends to augment managerial techniques for educational managers and directors, thus managing effectively and efficiently (Mazouak, 2019). In the same line, apart from the direct impact on graduate employability, digital skills will have a long-lasting implication on the economic growth of the nation. In fact, two ways the digital sector may contribute to economic growth include increased employability and also cross-cutting organizational skills improvement (Abdelkhalek and Al., 2021). This emphasizes that in order to satisfy market expectations, the Moroccan educational system must undergo significant restructuring (Digital Talent Review, 2021; Qostal and Al., 2024). All things considered, there is little doubt that incorporating digital skills into the practices of educators, directors, managers, and students promotes sustainable economic growth. We describe our work's approach and outcomes in the sections that follow.

RESEARCH METHODS

Our study technique is based on semi-structured interviews with employees, students, and teachers in the public and private sectors. These interviews' main goal is to collect crucial information for a thorough examination of our study question. Our study's qualitative method of semi-structured interviews has a number of advantages. It allows us to:

1. Enable a thorough examination of the topics covered, modify the questions in response to the participant's answers (CNNITAT, 2023).

2. Get accurate information by allowing the interviewee and interviewer to engage (Quivy and Van Campenhoudt, 2006).
3. Concentrate the respondents' conversation on predetermined subjects (Laforest and Al., 2011).

Semi-structured interviews have many benefits in terms of the depth and richness of information gathered, but they can also have disadvantages like interviewer bias, a high time and resource requirement, and subjective interpretation of the data (Quivy and Van Campenhoudt, 2006; Chevalier and Meyer, 2018). We have used a purposive sample approach to address these problems and guarantee a complete comprehension of the phenomenon being studied. With this approach, interview subjects are chosen more based on their experience than their personal traits. As a result, they must fulfill specific requirements for selection, such as years of experience, their field of expertise, and whether they work in the public or private sector (Bryman and Bell, 2015). Our sample for this study is made up of:

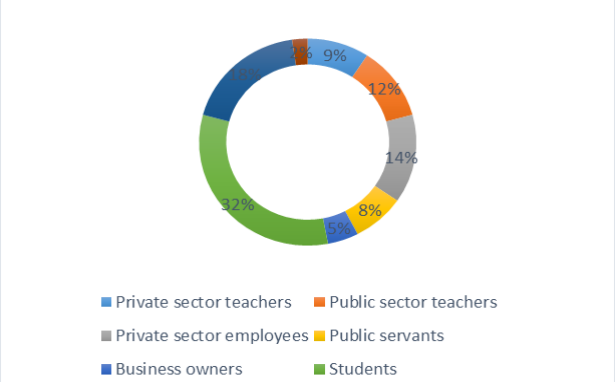

Figure 1. [Composition of our sample]
Source: Authors

We offer the results and talk about how incorporating digital skills into the educational system affects employability and, in turn, economic growth in the section that follows.

RESULTS AND DISCUSSION

We performed a thematic analysis of the interview content in order to examine the data we had gathered. In order to properly evaluate and comprehend the phenomenon under study, this method entails developing themes. The primary concerns regarding the incorporation of digital skills into Morocco's educational system and its effects on young graduates' employability and the nation's economic development are highlighted by the theme analysis of

our study. It highlights the strategic significance of this change in education while pointing out the issues that need to be resolved to make it successful. Indeed, interviews were conducted with staff members, students, research academics, and educational leaders. As a result, we organized the interview guide according to the following themes: Every educator and business executive surveyed stressed the significance of digitization for long-term economic success. In fact, because it fosters innovation, productivity, and company competitiveness, digitalization is seen as a major force behind economic growth. By incorporating new technology that can save costs and increase production, digital skills help Moroccan firms become more competitive. Workforce development should be a major priority, with an emphasis on digital literacy and upskilling the current workforce to accommodate new technologies in their jobs. As a result, a workforce with digital skills can draw more foreign investment, particularly in the technology and services industries, which accelerates economic growth. Digital technology integration can boost production and efficiency in industries like manufacturing and agriculture. Participants discussed how digital skills have revolutionized Morocco's agriculture industry, where agricultural yields have dramatically increased thanks to mobile applications that offer real-time weather and soil condition data. Like this, in the tourism industry, digital marketing expertise has been crucial in raising the profile of hotels, guest homes, and tourist destinations and enhancing their competitive stance. The significance of investing in digital infrastructure for quicker and more efficient economic change was also confirmed by respondents. They did point out that a nation's level of digital change will determine how much skills impact economic growth. After recent advancements in this field, our nation stands to gain a great deal. Through promoting innovation and accelerating digital adoption, the government plays a significant role in establishing the ideal conditions for digital growth. In order to promote digital transformation and guarantee that education is adapted to the demands of the digital industry, teachers questioned feel that cooperation between the government, private businesses, and educational institutions is crucial. Economic growth is impacted by the organizational and social changes that digitization brings about in organizations and society, in addition to the technological factors. Promoting digital inclusion guarantees that digitization helps all facets of society by lowering the digital divide and granting equal access to digital tools and opportunities. They did point out that a nation's level of digital change will determine how much skills impact economic growth. Our nation, which has recently made strides in this direction, stands to gain a great deal. By promoting innovation and accelerating digital adoption, the

government plays a significant role in establishing the ideal conditions for digital growth.

CONCLUSION

There is a strong interrelationship between economic growth, employability, and digital skills. Digital skills are increasingly becoming a part of life, and it will be beneficial to the economy to develop those skills relevant to the current labor market. Individuals can develop the workplace skills through high-quality, digital competencies-focused training and education programs. It involves professional growth and training and higher education courses of study that may integrate digital competencies in the curriculum. Employers may foster digital competencies building in the workplace by providing an environment that encourages lifelong learning.

This will be achieved by offering employees the opportunity to improve their skills through ongoing training and development programs, encouraging employees to use digital tools and technology within a workplace environment, and recognizing and rewarding those employees who demonstrate exceptional competency related to digital skills. Facilitating the development of digital skills will require a combination of governmental, business, academic, and community leadership and partnership. Best practices, resources, and information must be shared in order to develop and deliver training programs in digital skills that meet peoples' and enterprises' needs. In conclusion, digital skills development is of paramount importance, both in relation to economic growth and employability.

However, there are also challenges. Efficient communication and information infrastructures allow access to the Internet and continuing education, but what really matters is to develop a digital culture that will enhance innovative capabilities and technological adoption. Finally, policy measures stimulating investment in education and training and initiatives that foster entrepreneurship and innovation in digital-related fields should be introduced.

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